

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of:)
)
Zhang, et al.)
)
Serial No. 10/616,319)
)
Filed: July 9, 2003)
)
For: Ultrasound Breast Screening Device)
)
Examiner: Mehta, Parikha Solanki)
)
Group Art Unit: 3737)
)
Confirmation No. 1891)

Electronically Filed on November 30, 2007

APPEAL BRIEF

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The Applicants respectfully request that the Board of Patent Appeals and Interferences reverse the final rejection of claims 1-65 of the present application. This Appeal Brief is being filed along with the Notice of Appeal.

Application Serial No. 10/616,319
Appeal Brief
November 30, 2007

REAL PARTY IN INTEREST
(37 C.F.R. § 41.37(c)(1)(i))

The real party in interest is General Electric Company, assignee of the present application, having a place of business at 3000 North Grandview Boulevard, Waukesha, Wisconsin 53188.

RELATED APPEALS AND INTERFERENCES
(37 C.F.R. § 41.37(c)(1)(ii))

Not applicable.

STATUS OF THE CLAIMS
(37 C.F.R. § 41.37(c)(1)(iii))

The present application includes claims 1-65, all of which remain rejected.¹ The Applicants identify claims 1-65 as the claims that are being appealed. The text of the pending claims is provided in the Claims Appendix.

STATUS OF AMENDMENTS
(37 C.F.R. § 41.37(c)(1)(iv))

Subsequent to the final rejection of claims 1-65 mailed October 2, 2007, the Applicants filed a Response Under 37 C.F.R. § 1.116.² That amendment did not, however, amend any of the claims.³

¹ See October 2, 2007 Final Office Action.

² See October 11, 2007 Response Under 37 C.F.R. § 1.116.

³ See *id.*

SUMMARY OF CLAIMED SUBJECT MATTER
(37 C.F.R. § 41.37(c)(1)(v))

Independent claim 1 recites the following:

An ultrasound breast imaging assembly⁴ comprising:

first and second compression plates⁵ that are angled with respect to one another;⁶

a breast compression area defined between said first and second compression plates;⁷

at least one pivot assembly⁸ allowing relative motion between said first and second
compression plates,⁹ said at least one pivot assembly being operatively connected to each of said
first and second compression plates;¹⁰ and

an ultrasound probe¹¹ having an active matrix array (AMA)¹² positioned on one of said
first and second compression plates,¹³ said ultrasound probe being configured to translate over
said one of said first and second compression plates.¹⁴

⁴ See present application, *e.g.*, at page 8, lines 10-13, Figure 4, ref. 28, Figure 12, ref. 128, Figure 13, ref. 228 and Figure 14, ref. 356.

⁵ See *id.*, *e.g.*, at page 8, lines 10-11 and Figure 4, refs. 36 and 40.

⁶ See *id.*, *e.g.*, at page 8, lines 15-16, page 9, lines 17-20 and page 18, line 3 to page 19, line 2.

⁷ See *id.*, *e.g.*, at page 8, lines 11-12 and Figure 7, ref. 67.

⁸ See *id.*, *e.g.*, at page 8, lines 12-13, page 24, lines 5-9, page 24, line 10 to page 25, line 10, Figure 5, ref. 56, Figure 12, refs. 163 and 167, Figure 13, refs. 241 and 219.

⁹ See *id.*, *e.g.*, at page 8, lines 14-15 and page 15, lines 11-14.

¹⁰ See *id.*, *e.g.*, at page 8, lines 16-17, page 24, lines 1-9.

¹¹ See *id.*, *e.g.*, at page 8, line 13 and Figure 4, ref. 52.

¹² See *id.*, *e.g.*, at page 21, line 3 to page 22, line 16 and Figure 10, ref. 82.

¹³ See *id.*, *e.g.*, at page 9, lines 21-22.

¹⁴ See *id.*, *e.g.*, at page 9, line 22 to page 10, line 1.

Dependent claim 5 recites the following:

The ultrasound breast imaging assembly of claim 1, wherein said at least one pivot assembly comprises a spring member¹⁵ that connects said first compression plate to said second compression plate.¹⁶

Dependent claim 6 recites the following:

The ultrasound breast imaging assembly of claim 1, wherein said ultrasound breast imaging assembly comprises an upright member¹⁷ supported by a base,¹⁸ said first compression plate being operatively connected to a first pivot assembly,¹⁹ which is in turn positioned on a first portion of said upright member,²⁰ said second compression plate being operatively connected to a second pivot assembly,²¹ which is in turn positioned on a second portion of said upright member.²²

Dependent claim 18 recites the following:

The ultrasound breast imaging assembly of claim 1, further comprising an upright

¹⁵ See *id.*, e.g., at Figure 14, ref. 362.

¹⁶ See *id.*, e.g., at page 8, lines 10-21 and page 25, line 11 to page 26, line 9.

¹⁷ See *id.*, e.g., at Figure 4, ref. 32.

¹⁸ See *id.*, e.g., at page 9, lines 1-2 and Figure 4, ref. 30.

¹⁹ See *id.*, e.g., at page 9, lines 4-5 and page 24, line 1 to page 25, line 10, Figure 12, refs. 163 and 167, Figure 13, refs. 241 and 249.

²⁰ See *id.*, e.g., at page 9, lines 4-5 and page 24, line 1 to page 25, line 10, Figure 12, refs. 163 and 167, Figure 13, refs. 241 and 249.

²¹ See *id.*, e.g., at page 9, lines 6-7 and page 24, line 1 to page 25, line 10, Figure 12, refs. 163 and 167, Figure 13, refs. 241 and 249.

²² See *id.*, e.g., at page 9, lines 6-8 and page 24, line 1 to page 25, line 10, Figure 12, refs. 163 and 167, Figure 13, refs. 241 and 249.

member²³ supported by a base,²⁴ and a swivel member²⁵ that connects said at least one pivot assembly and first and second compression plates to said upright member,²⁶ wherein said swivel member is configured to rotate said first and second compression plates through a plurality of imaging orientations.²⁷

Independent claim 24 recites the following:

A breast imaging and display system²⁸ comprising:
a central processing unit (CPU);²⁹
an imaging workstation in electrical communication with said CPU;³⁰ and
an ultrasound breast imaging assembly³¹ operatively connected to, and in electrical communication with, said CPU,³² said ultrasound breast imaging assembly comprising:
an upper compression plate;³³
a lower compression plate,³⁴ wherein the planes of said upper and lower

²³ See *id.*, e.g., at Figure 4, ref. 32.

²⁴ See *id.*, e.g., at page 9, lines 1-2 and Figure 4, ref. 30.

²⁵ See *id.*, e.g., at page 20, lines 5-12 and Figure 9, ref. 80.

²⁶ See *id.*, e.g., at page 9, lines 11-12.

²⁷ See *id.*, e.g., at page 9, lines 12-14, page 19, lines 17-21 and page 20, lines 8-12.

²⁸ See *id.*, e.g., at page 8, lines 7-10 and Figure 15, ref. 100.

²⁹ See *id.*, e.g., at page 8, lines 7-8 and Figure 15, ref. 102.

³⁰ See *id.*, e.g., at page 8, lines 8-9 and Figure 15, ref. 104.

³¹ See *id.*, e.g., at Figure 4, ref. 28, Figure 12, ref. 128, Figure 13, ref. 228 and Figure 14, ref. 356.

³² See *id.*, e.g., at page 8, lines 9-10.

³³ See *id.*, e.g., at page 8, lines 10-11 and Figure 4, ref. 40.

³⁴ See *id.*, e.g., at page 8, lines 10-11 and Figure 4, ref. 36.

compression plates are angled with respect to one another;³⁵

a breast compression area defined between said upper and lower compression plates;³⁶

at least one pivot assembly³⁷ allowing relative motion between said upper and lower compression plates³⁸ while said planes of said upper and lower compression plates remain angled with respect to one another,³⁹ said at least one pivot assembly being operatively connected to each of said upper and lower compression plates,⁴⁰ wherein the angle between said compression plates changes during the relative motion between said first and second compression plates;⁴¹ and

an ultrasound probe⁴² having an active matrix array (AMA)⁴³ positioned on one of said upper and lower compression plates,⁴⁴ said ultrasound probe being configured to translate over said one of said upper and lower compression plates.⁴⁵

³⁵ See *id.*, e.g., at page 8, lines 15-16, page 9, lines 17-20 and page 18, line 3, to page 19, line 2.

³⁶ See *id.*, e.g., at page 8, lines 11-12 and Figure 7, ref. 67.

³⁷ See *id.*, e.g., at page 8, lines 12-13, page 24, lines 5-9, page 24, line 10 to page 25, line 10, Figure 5, ref. 56, Figure 12, refs. 163 and 167, Figure 13, refs. 241 and 219.

³⁸ See *id.*, e.g., at page 8, lines 14-15 and page 15, lines 11-14.

³⁹ See *id.*, e.g., at page 8, lines 14-16 and page 18, line 3, to page 19, line 2.

⁴⁰ See *id.*, e.g., at page 8, lines 16-17 and page 24, lines 1-9.

⁴¹ See *id.*, e.g., at page 8, lines 17-19, page 9, lines 15-20 and page 18, line 3, to page 19, line 2.

⁴² See *id.*, e.g., at page 8, line 13 and Figure 4, ref. 52.

⁴³ See *id.*, e.g., at page 21, line 3 to page 22, line 16 and Figure 10, ref. 82.

⁴⁴ See *id.*, e.g., at page 9, lines 21-22.

⁴⁵ See *id.*, e.g., at page 9, line 22 to page 10, line 1.

Dependent claim 28 recites the following:

The system of claim 24, wherein said at least one pivot assembly comprises a spring member⁴⁶ that connects said upper compression plate to said lower compression plate.⁴⁷

Dependent claim 29 recites the following:

The system of claim 24, wherein said ultrasound breast imaging assembly comprises an upright member⁴⁸ supported by a base,⁴⁹ said upper compression plate being operatively connected to an upper pivot assembly,⁵⁰ which is in turn positioned on an upper portion of said upright member,⁵¹ said lower compression plate being operatively connected to a lower pivot assembly,⁵² which is in turn positioned on a lower portion of said upright member.⁵³

Dependent claim 40 recites the following:

The system of claim 24, further comprising an upright member⁵⁴ supported by a base,⁵⁵ and a swivel member⁵⁶ that connects said at least one pivot assembly and upper and lower

⁴⁶ See *id.*, e.g., at Figure 14, ref. 362.

⁴⁷ See *id.*, e.g., at page 8, lines 19-21 and page 25, line 11 to page 26, line 9.

⁴⁸ See *id.*, e.g., at Figure 4, ref. 32.

⁴⁹ See *id.*, e.g., at page 9, lines 1-2 and Figure 4, ref. 30.

⁵⁰ See *id.*, e.g., at page 9, lines 4-5 and page 24, line 1 to page 25, line 10, Figure 12, refs. 163 and 167, Figure 13, refs. 241 and 249.

⁵¹ See *id.*, e.g., at page 9, lines 5-6 and page 24, line 1 to page 25, line 10, Figure 12, refs. 163 and 167, Figure 13, refs. 241 and 249.

⁵² See *id.*, e.g., at page 9, lines 6-7 and page 24, line 1 to page 25, line 10, Figure 12, refs. 163 and 167, Figure 13, refs. 241 and 249.

⁵³ See *id.*, e.g., at page 9, lines 7-9 and page 24, line 1 to page 25, line 10, Figure 12, refs. 163 and 167, Figure 13, refs. 241 and 249.

⁵⁴ See *id.*, e.g., at Figure 4, ref. 32.

⁵⁵ See *id.*, e.g., at page 9, lines 1-2 and Figure 4, ref. 30.

⁵⁶ See *id.*, e.g., at page 20, lines 5-12 and Figure 9, ref. 80.

compression plates to said upright member,⁵⁷ wherein said swivel member is configured to rotate said upper and lower compression plates through a plurality of imaging orientations.⁵⁸

Independent claim 52 recites the following:

An ultrasound breast imaging assembly⁵⁹ comprising:

a first and second compression plates,⁶⁰ said first and second compression plates being angled with respect to one another,⁶¹ one of said first and second compression plates comprising a sonolucent compression film,⁶² the other of said first and second compression plates comprising a sound absorbing stabilization plate;⁶³ *and said ultrasound probe configured to translate over said sonolucent compression film;*⁶⁴

a breast compression area defined between said first and second compression plates,⁶⁵ wherein said first and second compression plates are configured to compress a breast in said breast compression area so that said probe may image the breast,⁶⁶ and wherein said first and

⁵⁷ See *id.*, e.g., at page 9, lines 11-12.

⁵⁸ See *id.*, e.g., at page 9, lines 12-14, page 19, lines 17-21 and page 20, lines 8-12.

⁵⁹ See *id.*, e.g., at page 8, lines 10-13, Figure 4, ref. 28, Figure 12, ref. 128, Figure 13, ref. 228 and Figure 14, ref. 356.

⁶⁰ See *id.*, e.g., at page 8, lines 10-11 and Figure 4, ref. 36 and 40.

⁶¹ See *id.*, e.g., at page 8, lines 15-16, page 9, lines 17-20 and page 18, line 3, to page 19, line 2.

⁶² See *id.*, e.g., at page 9, lines 2-3, page 13, line 22 to page 14, line 7, and page 15, lines 1-4 and Figure 14, ref. 42.

⁶³ See *id.*, e.g., at page 9, lines 3-4, page 14, lines 21-22 and page 15, lines 1-4.

⁶⁴ *To be deleted after appeal process.*

⁶⁵ See *id.*, e.g., at page 8, lines 11-12 and Figure 7, ref. 67.

⁶⁶ See *id.*, e.g., at page 9, lines 18-20.

second compression plates remain angled with respect to one another during the compression;⁶⁷

at least one pivot assembly⁶⁸ allowing relative motion over an arcuate path between said first and second compression plates,⁶⁹ said at least one pivot assembly being operatively connected to each of said first and second compression plates,⁷⁰ *wherein said at least one pivot assembly is operatively connected to at least one of said first and second compression plates,*⁷¹ and wherein the angle between the first and second compression plates changes upon the relative motion between the first and second compression plates;⁷² and

an ultrasound probe⁷³ having an active matrix array (AMA)⁷⁴ positioned on one of said first and second compression plates,⁷⁵ wherein said AMA comprises a plurality of rows having a plurality of ultrasound elements,⁷⁶ and wherein said ultrasound probe is configured to translate over said one of said first and second compression plates.⁷⁷

Dependent claim 53 recites the following:

The ultrasound breast imaging assembly of claim 52, wherein said at least one pivot

⁶⁷ See *id.*, e.g., at page 9, lines 15-20 and page 18, line 3, to page 19, line 2.

⁶⁸ See *id.*, e.g., at page 8, lines 12-13, page 24, lines 5-9, page 24, line 10 to page 25, line 10, Figure 5, ref. 56, Figure 12, refs. 163 and 167, Figure 13, refs. 241 and 219.

⁶⁹ See *id.*, e.g., at page 8, lines 14-15, page 9, lines 16-17 and page 15, lines 11-14.

⁷⁰ See *id.*, e.g., at page 8, lines 16-17 and page 24, lines 1-9.

⁷¹ *To be deleted after appeal process.*

⁷² See *id.*, e.g., at page 8, lines 17-19, page 9, lines 15-20 and page 18, line 3, to page 19, line 2.

⁷³ See *id.*, e.g., at page 8, line 13 and Figure 4, ref. 52.

⁷⁴ See *id.*, e.g., at page 21, line 3 to page 22, line 16 and Figure 10, ref. 82.

⁷⁵ See *id.*, e.g., at page 9, lines 21-22.

⁷⁶ See *id.*, e.g., at page 9, lines 1-2.

⁷⁷ See *id.*, e.g., at page 9, line 22 to page 10, line 1.

assembly comprises a spring member⁷⁸ that connects said first compression plate to said second compression plate.⁷⁹

Dependent claim 54 recites the following:

The ultrasound breast imaging assembly of claim 52, wherein said ultrasound breast imaging assembly comprises an upright member supported by a base,⁸⁰ said first compression plate being operatively connected to a first pivot assembly,⁸¹ which is in turn positioned a first portion of said upright member,⁸² said second compression plate being operatively connected to a second pivot assembly,⁸³ which is in turn positioned on a second portion of said upright member.⁸⁴

Dependent claim 63 recites the following:

The ultrasound breast imaging assembly of claim 52, further comprising an upright member supported by a base,⁸⁵ and a swivel member⁸⁶ that connects said at least one pivot

⁷⁸ See *id.*, e.g., at Figure 14, ref. 362.

⁷⁹ See *id.*, e.g., at page 8, lines 19-21 and page 25, line 11 to page 26, line 9.

⁸⁰ See *id.*, e.g., at page 9, lines 1-2 and Figure 4, ref. 30.

⁸¹ See *id.*, e.g., at page 9, lines 4-5 and page 24, line 1 to page 25, line 10, Figure 12, refs. 163 and 167, Figure 13, refs. 241 and 249.

⁸² See *id.*, e.g., at page 9, lines 5-6 and page 24, line 1 to page 25, line 10, Figure 12, refs. 163 and 167, Figure 13, refs. 241 and 249.

⁸³ See *id.*, e.g., at page 9, lines 6-7 and page 24, line 1 to page 25, line 10, Figure 12, refs. 163 and 167, Figure 13, refs. 241 and 249.

⁸⁴ See *id.*, e.g., at page 9, lines 7-9 and page 24, line 1 to page 25, line 10, Figure 12, refs. 163 and 167, Figure 13, refs. 241 and 249.

⁸⁵ See *id.*, e.g., at page 9, lines 1-2 and Figure 4, ref. 30.

⁸⁶ See *id.*, e.g., at page 20, lines 5-12 and Figure 9, ref. 80.

assembly and first and second compression plates to said upright member,⁸⁷ wherein said swivel member is configured to rotate said first and second compression plates through a plurality of imaging orientations.⁸⁸

GROUND OF REJECTION TO BE REVIEWED ON APPEAL
(37 C.F.R. § 41.37(c)(1)(vi))

- Claims 2 and 25 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement.
- Claims 1-17, 19-39, 41-44, 46-50, 52-62, 64 and 65 stand rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 5,479,927 (“Shmulewitz”) in view of United States Patent No. 5,706,327 (“Adamkowski”).
- Claims 18, 40 and 63 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Shmulewitz in view of Adamkowski and United States Patent No. 5,553,111 (“Moore”).
- Claim 45 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Shmulewitz, Adamkowski and United States Patent No. 5,984,870 (“Giger”).
- Claim 51 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Shmulewitz in view of Adamkowski and United States Patent Application Publication No. 2003/0007598 (“Wang”).

⁸⁷ See *id.*, e.g., at page 9, lines 11-12.

⁸⁸ See *id.*, e.g., at page 9, lines 12-14, page 19, lines 17-21 and page 20, lines 8-12.

ARGUMENT
(37 C.F.R. § 41.37(c)(1)(vii))

The Examiner has maintained the rejections of claims 1-65. As shown above, Shmulewitz and Adamkowski form the basis for all the claim rejections. Claims 1-65 should be in condition for allowance at least because the cited references, do not describe, teach or suggest (i) “at least one pivot assembly being operatively connected to each of” two “compression plates,” as recited in independent claims 1, 24 and 52, (ii) “wherein said at least one pivot assembly comprises a spring member that connected [one] compression plate to [another] compression plate,” as recited in claims 5, 28 and 53, (iii) a first compression plate being operatively connected to a first pivot assembly, and a second compression plate being operatively connected to a second pivot assembly, as recited in claims 6, 29 and 54, and (iv) a “swivel member that connects said at least one pivot assembly and [the] compression plates to said upright member,” as recited in claims 18, 40 and 63.

I. Claims 2 And 25 Satisfy 35 U.S.C. §112, First Paragraph

The Applicants first turn to the rejection of claims 2 and 25 under 35 U.S.C. 112, first paragraph. See October 2, 2007 Office Action at page 3. In particular, the Office Action states that the “disclosure does not describe, show, or otherwise support an embodiment wherein a first pivot assembly must be connected to both plates and the second assembly is connected to at least one of the plates.” The Applicants note, however, that claim 1 recites “**at least one pivot assembly** being operatively connected to each of said first and second compression plates.” See *id.*

Claim 2 recites, in part, “wherein said at least one pivot assembly comprises first and second pivot assemblies, wherein said first pivot assembly is operatively connected to said first compression plate, and said second pivot assembly is operatively connected to said second compression plate,” while claim 25 recites, in part, “wherein said at least one pivot assembly comprises upper and lower pivot assemblies, wherein said upper pivot assembly is operatively connected to said upper compression plate, and said lower pivot assembly is operatively connected to said lower compression plate.” Claim 2 depends directly from claim 1, while claim 25 depends directly from claim 24.

Contrary to the suggestion in the Office Action, claim 1 (from which claim 2 depends) does **not** recite “a pivot assembly being operatively connected to each of said first and second compression plates,” nor does claim 24 (from which claim 25 depends) recite “a pivot assembly being operatively connected to each of said upper and lower compression plates.” Instead, claims 1 and 24 clearly and unambiguously recite “at least one pivot assembly.” There is no question that two pivot assemblies, for example, are “at least one pivot assembly.” Claim 2 recites “wherein said at least one pivot assembly comprises first and second pivot assemblies, wherein said first pivot assembly is operatively connected to said first compression plate, and said second pivot assembly is operatively connected to said second compression plate.” Such arrangements are clearly shown and described with respect to Figures 12-13, for example. Thus, the Applicants respectfully request reconsideration of this rejection.

I. The Proposed Combination Of Shmulewitz And Adamkowski Does Not Render Claims 1-17, 19-39, 41-44, 46-50, 52-62, 64 And 65 Unpatentable

The Applicants next turn to the rejection of claims 1-17, 19-39, 41-44, 46-50, 52-62, 64 and 65 as being unpatentable over Shmulewitz in view of Adamkowski. In order for a *prima facie* case of obviousness to be established, the Manual of Patent Examining Procedure (MPEP) states the following:

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine the teachings. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations.** The teaching or suggestion to make the claimed combination and the reasonable expectation of success **must both be found in the prior art.**

See Manual of Patent Examining Procedure (MPEP) at § 2142, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added). Additionally, if a *prima facie* case of obviousness is not established, **the Applicant is under no obligation to submit evidence of nonobviousness.**

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

Id.

Thus, as clearly set forth above, in order to establish a *prima facie* case of obviousness with respect to the claims, Shmulewitz and Adamkowski must **teach or suggest all the claim**

limitations. The Applicants respectfully submit, however, that this proposed combination does not teach or suggest all the claim limitations, as discussed below.

A. The Proposed Combination Of Shmulewitz And Adamkowski Does Not Describe, Teach Or Suggest At Least One Pivot Assembly Operatively Connected To Two Compression Plates, As Recited In Independent Claims 1, 24 And 52

1. The Office Action Fails To Establish A *Prima Facie* Case Of Obviousness With Respect To The Claims

Initially, the Office Action acknowledges that the combination of Shmulewitz and Adamkowski does not describe, teach or suggest “at least one pivot assembly being operatively connected to each of said first and second compression plates,” as recited in claims 1 and 52, or “at least one pivot assembly being operatively connected to each of said upper and lower compression plates,” as recited in claim 24. In particular, the Office Action states that Shmulewitz “fails to teach that the two compression plates are angled with respect to each other, and consequently fails to teach any features for the assembly related to the mechanism or adjustment of such an angled arrangement.” See October 2, 2007 Office Action at page 4 (emphasis added). Next, the Office Action also acknowledges that Adamkowski “does not teach that the pivot assembly is attached to each of the compression plates.” See *id.* If Adamkowski does not teach a pivot assembly attached to each of its compression plates, and Shmulewitz also “fails to teach any features for the assembly related to the mechanism or adjustment of such an angled arrangement,” then the combination of the two references, by definition, also cannot describe, teach or suggest “at least one pivot assembly being operatively connected to each” of

two “compression plates,” as recited in the independent claims. Thus, the Office Action has failed to establish a *prima facie* case of obviousness with respect to the pending claims because, as clearly set forth in Federal Circuit case law and the MPEP, Shmulewitz and Adamkowski “**must teach or suggest all the claim limitations**” of the claims. *See* MPEP at § 2142, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

2. The Proposed Combination Does Not Describe, Teach Or Suggest The Relevant Limitations

Turning now to the references in particular, Shmulewitz “relates to methods and apparatus for imaging breast tissue employing both X-ray and ultrasound technology to provide enhanced diagnostic capability, and enhanced X-ray imaging.” *See* Shmulewitz at column 1, lines 9-12. In particular, Shmulewitz “provides methods and apparatus for augmenting conventional mammography equipment with an ultrasonic imaging system that provides geometrically registered X-ray and ultrasonic fields....” *Id.* at column 1, lines 12-16.

Shmulewitz discloses a system in which a breast is compressed between two compressive members that are parallel with one another, and typically parallel with the plane of the floor. *See id.* at Figures 1-2, 4A, 9, 11 and 12. Shmulewitz does not describe, teach, or suggest, however “first and second compression plates that are **angled** with respect to one another,” or “**at least one pivot assembly** allowing relative motion between said first and second compression plates,” as recited in claim 1. Indeed, the Office Action acknowledges these deficiencies in Shmulewitz. *See* October 2, 2007 Office Action at page 4 (“Shmulewitz (‘927) fails to teach that the two compression plates are angled with respect to each other, and consequently **fails to teach any**”

features for the assembly related to the mechanism or adjustment of such an angled arrangement.”). Thus, Shmulewitz cannot, by definition, describe, teach or suggest “at least one **pivot assembly** being operatively connected to each of” two “compression plates,” as recited in claims 1, 24 and 52.

In an attempt to overcome these deficiencies, the Office Action cites Adamkowski, which “generally relates to medical X-ray imaging and particularly to mammography.” Adamkowski at column 1, lines 5-7. In particular, Adamkowski “relates to a method and apparatus for mammographic compression which enables compressive forces to be distributed more uniformly along the breast while still providing sufficient compression at the chest wall.” *Id.* at column 1, lines 7-12.

The mammography device 10 of Adamkowski includes a receiver/breast supporting surface that is secured to a C-arm 14. For example, Adamkowski discloses the following:

FIG. 1 illustrates a conventional mammography device 10 upon which the present invention may be used. The mammography device 10 comprises a base 12, an imaging C-arm 14 which is connected to the vertical travel assembly 12 via a pivot member 16, a X-ray tube 18 located at one end of the imaging C-arm 14 and an image receiver 20, which also provides a breast supporting surface, at the opposite end.

Id. at column 2, lines 44-50. Notably, **the breast supporting surface 20 is not configured to pivot with respect to the C-arm 14, nor is it connected to a pivot assembly.** *See id.*, e.g., at Figures 1 and 2.

Adamkowski does, however, disclose a second compression surface that is configured to

pivot.

The apparatus further includes a compression surface 32, which is shown as substantially planar, having a chest wall end 33a and nipple end 33b. The compression surface 32 is attached to the frame 30 at pivots 34a and 34b located between chest wall end 33a and nipple end 33b.

Id. at column 2, lines 57-62. While the compression surface 32 is connected to pivots 34a and 34b, the breast supporting surface 20 is not connected to those pivots, or any other pivots. Thus, **only the compression surface 32** is configured to pivot, but not the breast supporting surface 20.

Thus, the combination of Shmulewitz and Adamkowski discloses, at best, a system in which only one surface, namely the compression surface 32, is configured to pivot. That is, only the compression surface 32 is attached to a pivoting device. The proposed combination of Shmulewitz and Adamkowski does not describe, teach, or suggest, however, **“at least one pivot assembly being operatively connected to each of said first and second compression plates,”** as recited in claims 1 and 52, or **“at least one pivot assembly being operatively connected to each of said upper and lower compression plates,”** as recited in claim 24. As such, the proposed combination of Shmulewitz and Adamkowski does not **“teach or suggest all the claim limitations,”** as required by Federal Circuit case law and the MPEP in order to establish a *prima facie* case of obviousness. Thus, for at least these reasons, the proposed combination does not render claims 1, 24, 52 or any of the claims that depend therefrom unpatentable.

Instead of providing any prior art evidence of the missing limitations noted above, the Office Action summarily concludes that these limitations are merely an “obvious matter of

design choice.” *See* October 2, 2007 Office Action at page 5. The Office Action contends that attaching the pivot assembly to both compression plates is an obvious matter of design choice without providing any evidence or legal basis for such statement. *See id.* In particular, the Office Action states the following:

Applicant has not disclosed that attaching the pivot assembly to both compression plates instead of attaching it to one plate and a separate support member provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant’s invention to perform equally well with either the pivot attached to both plates or the pivot attached to one plate and the separate support member because both arrangements are effective to allow angular motion between the two compression plates. Therefore, it would have been an obvious matter of design choice to a person of ordinary skill in the art to modify Shmulewitz (‘927), as previously modified by Adamkowski (‘327) to attach the other end of the pivot assembly to the second compression plate instead of the support member in order to achieve the claimed invention.

See id. This argument, however, runs afoul of patent examining procedure. As noted above, “the prior art reference (or references when combined) **must teach or suggest all the claim limitations.**” *See* MPEP at § 2142, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The Applicants have demonstrated that the proposed combination of Shmulewitz and Adamkowski does not describe, teach or suggest all the limitations of independent claims 1, 24 and 52. In particular, neither Shmulewitz, nor Adamkowski describes, teaches or suggests “at least one pivot assembly being operatively connected to each of said first and second compression plates,” as recited in claims 1 and 52, or “at least one pivot assembly being operatively connected to each of said upper and lower compression plates,” as recited in claim 24. Indeed, the Office Action

even acknowledges as much. *See* October 2, 2007 Office Action at page 4 (“Shmulewitz (‘927) fails to teach that the two compression plates are angled with respect to each other, and consequently **fails to teach any features for** the assembly related to the mechanism or adjustment of such an angled arrangement.... Adamkowski (‘327) does not teach that the pivot assembly is attached to each of the compression plates.””). Thus, for at least these reasons, the Applicants respectfully submit that the Office Action has not established a *prima facie* case of obviousness with respect to the pending claims, as discussed above.

Additionally, Federal Circuit case law and the MPEP also mandate that the “teaching or suggestion to make the claimed combination and the reasonable expectation of success must **both be found in the prior art, and not based on applicant’s disclosure.**” *See* MPEP at § 2142, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The Office Action provides no evidence or legal authority for its “obvious matter of design choice” argument. *See* October 2, 2007 Office Action at page 5.

Moreover, the Applicants respectfully submit that the Office Action seemingly uses the Applicants’ disclosure to formulate its “design choice” argument. Indeed, the Applicants’ disclosure describes various embodiments, which are not described in the cited references. The Office Action appears to use the various examples discussed in the Applicants’ disclosure to formulate the “design choice” argument reproduced above. As acknowledged by the Office Action, the cited references do not describe, teach or suggest “at least one pivot assembly being operatively connected to each of said first and second compression plates,” as recited in claim 1,

for example. Instead, the only evidence of such a “design choice,” as termed by the Office Action, is in the Applicants’ disclosure. Thus, for at least this reason, the Applicants respectfully submit that the Office Action has failed to establish a *prima facie* case of obviousness with respect to the pending claims.

B. The Proposed Combination Of Shmulewitz And Adamkowski Does Not Render Claims 5, 28 And 53 Unpatentable

With respect to claims 5, 28 and 53, the proposed combination of Shmulewitz and Adamkowski also does not describe, teach, or suggest “wherein said at least one pivot assembly comprises a **spring member that connects [one] compression plate to [another] compression plate,**” nor has the Office Action even attempted to show where such limitations are found in the cited references. *See* October 2, 2007 Office Action at pages 3-5. While Adamkowski discloses springs 42 between the compression surface 32 and the frame 30 that supports the compression surface 32, **these springs are not used to connect the compression surface 32 to the breast supporting surface 20.** *See* Adamkowski at Figures 3 and 4 and column 3, lines 11-25. Thus, for at least this additional reason, the Office Action has not established a *prima facie* case of obviousness with respect to claims 5, 28 and 53.

In short, neither Shmulewitz, nor Adamkowski, describes, teaches or suggests ““wherein said at least one pivot assembly comprises a **spring member that connects [one] compression plate to [another] compression plate,**” as recited in claims 5, 28 and 53. Thus, for at least this reason, the proposed combination of references does not render these claims unpatentable.

C. The Proposed Combination Of Shmulewitz And Adamkowski Does Not Render Claims 6, 29 And 54

With respect to claims 6, 29 and 54, the proposed combination of Shmulewitz and Adamkowski does not describe, teach, or suggest a first compression plate being operatively connected to a first pivot assembly, and a second compression plate being operatively connected to a second pivot assembly, nor has the Office Action attempted to show where such limitations are found in the cited references. Thus, for at least this additional reason, the Office Action has not established a *prima facie* case of obviousness with respect to claims 6, 29 and 54

Indeed, neither Shmulewitz, nor Adamkowski describes, teaches or suggests a “first compression plate being operatively connected to a first pivot assembly, which is in turn positioned on a first portion of said upright member, said second compression plate being operatively connected to a second pivot assembly, which is in turn positioned on a second portion of said upright member,” as recited in claims 6 and 54, nor an “upper compression plate being operatively connected to an upper pivot assembly, which is in turn positioned on an upper portion of said upright member, said lower compression plate being operatively connected to a lower pivot assembly, which is in turn positioned on a lower portion of said upright member,” as recited in claim 29. Thus, for at least these reasons, the proposed combination of Shmulewitz and Adamkowski does not render claims 6, 29 and 54 unpatentable.

II. The Proposed Combination Of Shmulewitz, Adamkowski And Moore Does Not Render Claims 18, 40 and 63 Unpatentable

The Applicants next turn to the rejection of claim 18, 40 and 63 as being unpatentable

over Shmulewitz, Adamkowski and Moore. The Office Action acknowledges that “[n]either Shmulewitz.. nor Adamkowski... provide a swivel member configured to rotate the plates through a plurality of imaging configurations.” *See* October 2, 2007 Office Action at page 5. In an attempt to overcome this deficiency, the Office Action relies on Moore. *See id.*

Moore discloses, however, a system in which “the compression plate 14 and/or the support plate 16 are capable of one or both of lateral translation (A+B) between the inner surface 15 of the compression plate 14 and the inner surface 17 of the support plate 16.” Moore at column 8, lines 3-8. While Moore discloses that the compression plates 14 and 16 may be laterally translated or twisted with respect to one another, the proposed combination of Shmulewitz, Adamkowski and Moore does not describe, teach or suggest a “swivel member that **connects** said at least one pivot assembly **and** first and second compression plates to said upright member,” as recited, for example, in claim 18. Thus, for at least this reason, the proposed combination does not render claims 18, 40 and 63 unpatentable.

III. The Proposed Combination Of Shmulewitz, Adamkowski And Giger Does Not Render Claim 45 Unpatentable

The Applicants next turn to the rejection of claim 45 as being unpatentable over Shmulewitz, Adamkowski and Giger. The Applicants respectfully submit that the proposed combination of references does not render claim 45 unpatentable for at least the reasons discussed above.

Application Serial No. 10/616,319
Appeal Brief
November 30, 2007

IV. The Proposed Combination Of Shmulewitz, Adamkowski And Wang Does Not Render Claim 51 Unpatentable

The Applicants respectfully submit that the proposed combination of Shmulewitz, Adamkowski and Wang does not render claim 51 unpatentable for at least the reasons discussed above.

IV. Conclusion

For at least the reasons discussed above, the Applicants respectfully submit that the pending claims are allowable in all respects. Therefore, the Board is respectfully requested to reverse the rejections of pending claims 1-65.

V. Payment of Fees

The Commissioner is authorized to charge any necessary fees, including the \$510 fee for the Notice of Appeal and the \$510 fee for this Appeal Brief, or credit overpayment to Deposit Account 50-2401.

Respectfully submitted,

Dated: November 30, 2007

/Joseph M. Butscher/
Joseph M. Butscher
Registration No. 48,326
Attorney for Applicant

McANDREWS, HELD & MALLOY, LTD.
500 West Madison Street, 34th Floor
Chicago, Illinois 60661
(312) 775-8000

CLAIMS APPENDIX
(37 C.F.R. § 41.37(c)(1)(viii))

1. An ultrasound breast imaging assembly comprising:

first and second compression plates that are angled with respect to one another;

a breast compression area defined between said first and second compression plates;

at least one pivot assembly allowing relative motion between said first and second compression plates, said at least one pivot assembly being operatively connected to each of said first and second compression plates; and

an ultrasound probe having an active matrix array (AMA) positioned on one of said first and second compression plates, said ultrasound probe being configured to translate over said one of said first and second compression plates.
2. The ultrasound breast imaging assembly of claim 1, wherein said at least one pivot assembly comprises first and second pivot assemblies, wherein said first pivot assembly is operatively connected to said first compression plate, and said second pivot assembly is operatively connected to said second compression plate.
3. The ultrasound breast imaging assembly of claim 1, wherein one of said first and second compression plates remains in a fixed orientation with respect to the other.

4. The ultrasound breast imaging assembly of claim 1, wherein the relative motion between said first and second compression plates occurs over an arcuate path.

5. The ultrasound breast imaging assembly of claim 1, wherein said at least one pivot assembly comprises a spring member that connects said first compression plate to said second compression plate.

6. The ultrasound breast imaging assembly of claim 1, wherein said ultrasound breast imaging assembly comprises an upright member supported by a base, said first compression plate being operatively connected to a first pivot assembly, which is in turn positioned on a first portion of said upright member, said second compression plate being operatively connected to a second pivot assembly, which is in turn positioned on a second portion of said upright member.

7. The ultrasound breast imaging assembly of claim 1, wherein said ultrasound breast imaging assembly comprises an upright member supported by a base, said first compression plate being operatively connected to a first pivot assembly, which is in turn connected to a first extension member, which is in turn translationally secured to said upright member.

8. The ultrasound breast imaging assembly of claim 7, wherein said second compression plate remains in a fixed orientation.

9. The ultrasound breast imaging assembly of claim 7, wherein said second compression plate is operatively connected to a second pivot assembly, which is in turn connected to a second extension member, which is in turn translationally secured to said upright member.

10. The ultrasound breast imaging assembly of claim 7, wherein said first extension member is perpendicular to said upright member, and wherein said first extension member translates along said upright member while said first and second compression plates remain angled with respect to one another, wherein the angle between the first and second compression plates changes when a breast is compressed therebetween.

11. The ultrasound breast imaging assembly of claim 1, wherein said first and second compression plates are configured to compress a breast in said breast compression area so that said probe may image the breast, and wherein said first and second compression plates remain angled with respect to one another, wherein the angle between the first and second compression plates changes upon the relative motion between the first and second compression plates.

12. The ultrasound breast imaging assembly of claim 1, wherein said first and second compression plates are radiolucent.

13. The ultrasound breast imaging assembly of claim 1, wherein said first and second compression plates are configured to adequately contact the breast for imaging even though the breast is not substantially flattened.

14. The ultrasound breast imaging assembly of claim 1, wherein said ultrasound breast imaging assembly is used in conjunction with an x-ray mammography system.

15. The ultrasound breast imaging assembly of claim 14, wherein said ultrasound breast imaging assembly is secured to a portion of said x-ray mammography system.

16. The ultrasound breast imaging assembly of claim 1, wherein said AMA comprises a plurality of rows of a plurality of ultrasound elements.

17. The ultrasound breast imaging assembly of claim 16, wherein at least one group of said plurality of ultrasound elements is selectively activated during an imaging procedure.

18. The ultrasound breast imaging assembly of claim 1, further comprising an upright member supported by a base, and a swivel member that connects said at least one pivot assembly and first and second compression plates to said upright member, wherein said swivel member is configured to rotate said first and second compression plates through a plurality of imaging orientations.

19. The ultrasound breast imaging assembly of claim 18, wherein said plurality of imaging orientations comprise a cranio-caudal (CC) orientation and a mediolateral oblique (MLO) orientation.

20. The ultrasound breast imaging assembly of claim 1, wherein said ultrasound breast imaging assembly is configured to allow a patient to be imaged in a standard mammography position.

21. The ultrasound breast imaging assembly of claim 1, wherein one of said first and second compression plates comprises a sonolucent compression film, and wherein said ultrasound probe is configured to translate over said sonolucent compression film.

22. The ultrasound breast imaging assembly of claim 1, wherein one of said first and second compression plates comprises a sound absorbing stabilization plate.

23. The ultrasound breast imaging assembly of claim 1, wherein the first and second compression plates remain angled with respect to one another during the relative motion between said first and second compression plates, and wherein the angle between said first and second compression plates changes during the relative motion between the first and second compression plates.

24. A breast imaging and display system comprising:
a central processing unit (CPU);
an imaging workstation in electrical communication with said CPU; and
an ultrasound breast imaging assembly operatively connected to, and in electrical communication with, said CPU, said ultrasound breast imaging assembly comprising:
an upper compression plate;
a lower compression plate, wherein the planes of said upper and lower compression plates are angled with respect to one another;
a breast compression area defined between said upper and lower compression plates;
at least one pivot assembly allowing relative motion between said upper and lower compression plates while said planes of said upper and lower compression plates remain angled with respect to one another, said at least one pivot assembly being operatively connected to each

of said upper and lower compression plates, wherein the angle between said compression plates changes during the relative motion between said first and second compression plates; and

an ultrasound probe having an active matrix array (AMA) positioned on one of said upper and lower compression plates, said ultrasound probe being configured to translate over said one of said upper and lower compression plates.

25. The system of claim 24, wherein said at least one pivot assembly comprises upper and lower pivot assemblies, wherein said upper pivot assembly is operatively connected to said upper compression plate, and said lower pivot assembly is operatively connected to said lower compression plate.

26. The system of claim 24, wherein one of said upper and lower compression plates remains in a fixed orientation with respect to the other.

27. The system of claim 24, wherein the upper compression plate moves relative to said lower compression plate by pivoting with respect to said lower compression plate over an arcuate path.

28. The system of claim 24, wherein said at least one pivot assembly comprises a spring member that connects said upper compression plate to said lower compression plate.

29. The system of claim 24, wherein said ultrasound breast imaging assembly comprises an upright member supported by a base, said upper compression plate being operatively connected to an upper pivot assembly, which is in turn positioned on an upper portion of said upright member, said lower compression plate being operatively connected to a lower pivot assembly, which is in turn positioned on a lower portion of said upright member.

30. The system of claim 24, wherein said ultrasound breast imaging assembly comprises an upright member supported by a base, said upper compression plate being operatively connected to an upper pivot assembly, which is in turn connected to an upper extension plate, which is in turn translationally secured to said upright member.

31. The system of claim 30, wherein said lower compression plate remains in a fixed orientation with respect to said upright member.

32. The system of claim 30, wherein said lower compression plate is operatively connected to a lower pivot assembly, which is in turn connected to a lower extension member, which is in turn translationally secured to said upright member.

33. The system of claim 30, wherein said upper extension member is perpendicular to said upright member, and wherein said upper extension member translates over said upright member.

34. The system of claim 24, wherein said upper and lower compression plates are configured to compress a breast in said breast compression area so that said probe may image the breast, and wherein said upper and lower compression plates remain angled with respect to one another during imaging of the breast.

35. The system of claim 24, wherein said upper and lower compression plates are configured to adequately contact the breast for imaging even though the breast is not substantially flattened.

36. The system of claim 24, wherein said ultrasound breast imaging assembly is used with an x-ray mammography system.

37. The system of claim 36, wherein said ultrasound breast imaging assembly is secured to a portion of said x-ray mammography system.

38. The system of claim 24, wherein said AMA comprises a plurality of rows of a plurality of ultrasound elements.

39. The system of claim 38, wherein at least one group of said plurality of ultrasound elements is selectively activated and deactivated during an imaging procedure.

40. The system of claim 24, further comprising an upright member supported by a base, and a swivel member that connects said at least one pivot assembly and upper and lower compression plates to said upright member, wherein said swivel member is configured to rotate said upper and lower compression plates through a plurality of imaging orientations.

41. The system of claim 40, wherein said plurality of imaging orientations comprise a cranio-caudal (CC) orientation and a mediolateral oblique (MLO) orientation.

42. The system of claim 24, wherein said ultrasound breast imaging assembly is configured to allow a patient to be imaged in a standard mammography position.

43. The system of claim 24, wherein one of said upper and lower compression plates comprises a sonolucent compression film, and wherein said ultrasound probe is configured to translate over said sonolucent compression film.

44. The system of claim 24, wherein one of said upper and lower compression plates comprises a sound absorbing stabilization plate.

45. The system of claim 24, wherein said CPU receives image data from said ultrasound probe and automatically analyzes said image data for at least one of lesions, cysts and microcalcifications.

46. The system of claim 24, wherein said image workstation comprises a monitor, wherein said CPU displays an ultrasound image on said monitor, and wherein said image is derived from said ultrasound probe imaging a breast.

47. The system of claim 46, wherein said CPU also displays an x-ray mammographic image on said monitor within close proximity of said ultrasound image.

48. The system of claim 47, wherein said ultrasound image is registered with said x-ray mammographic image.

49. The system of claim 46, wherein said ultrasound image is a representation of an individual ultrasound slice.

50. The system of claim 46, wherein said ultrasound image is a representation of a thick slice, wherein said thick slice comprises a plurality of individual ultrasound slices.

51. The system of claim 24, wherein said image workstation comprises a monitor, and wherein said CPU displays a CINE loop of a plurality of individual ultrasound slices on said monitor.

52. An ultrasound breast imaging assembly comprising:

a first and second compression plates, said first and second compression plates being angled with respect to one another, one of said first and second compression plates comprising a sonolucent compression film, the other of said first and second compression plates comprising a sound absorbing stabilization plate; and said ultrasound probe configured to translate over said sonolucent compression film;

a breast compression area defined between said first and second compression plates, wherein said first and second compression plates are configured to compress a breast in said breast compression area so that said probe may image the breast, and wherein said first and second compression plates remain angled with respect to one another during the compression;

at least one pivot assembly allowing relative motion over an arcuate path between said first and second compression plates, said at least one pivot assembly being operatively connected to each of said first and second compression plates, wherein said at least one pivot assembly is operatively connected to at least one of said first and second compression plates, and wherein the angle between the first and second compression plates changes upon the relative motion between the first and second compression plates; and

an ultrasound probe having an active matrix array (AMA) positioned on one of said first and second compression plates, wherein said AMA comprises a plurality of rows having a plurality of ultrasound elements; and wherein said ultrasound probe is configured to translate over said one of said first and second compression plates.

53. The ultrasound breast imaging assembly of claim 52, wherein said at least one pivot assembly comprises a spring member that connects said first compression plate to said second compression plate.

54. The ultrasound breast imaging assembly of claim 52, wherein said ultrasound breast imaging assembly comprises an upright member supported by a base, said first compression plate being operatively connected to a first pivot assembly, which is in turn positioned a first portion of said upright member, said second compression plate being operatively connected to a second pivot assembly, which is in turn positioned on a second portion of said upright member.

55. The ultrasound breast imaging assembly of claim 52, wherein said ultrasound breast imaging assembly comprises an upright member supported by a base, said first compression plate being operatively connected to a first pivot assembly, which is in turn connected to a first extension member, which is in turn translationally secured to said upright

member.

56. The ultrasound breast imaging assembly of claim 52, wherein said second compression plate remains in a fixed orientation.

57. The ultrasound breast imaging assembly of claim 55, wherein said second compression plate is operatively connected to a second pivot assembly, which is in turn connected to a second extension member, which is in turn translationally secured to said upright member.

58. The ultrasound breast imaging assembly of claim 55, wherein said first extension member is perpendicular to said upright member, and wherein said first extension member translates along said upright member while said first and second compression plates remain angled with respect to one another, wherein the angle between the first and second compression plates changes when a breast is compressed therebetween.

59. The ultrasound breast imaging assembly of claim 52, wherein said first and second compression plates are configured to adequately compress the breast for imaging even though the breast is not substantially flattened.

60. The ultrasound breast imaging assembly of claim 52, wherein said ultrasound breast imaging assembly is used in conjunction with an x-ray mammography system.

61. The ultrasound breast imaging assembly of claim 60, wherein said ultrasound breast imaging assembly is secured to a portion of said x-ray mammography system.

62. The ultrasound breast imaging assembly of claim 52, wherein at least one group of said plurality of ultrasound elements is selectively activated and deactivated during an imaging procedure.

63. The ultrasound breast imaging assembly of claim 52, further comprising an upright member supported by a base, and a swivel member that connects said at least one pivot assembly and first and second compression plates to said upright member, wherein said swivel member is configured to rotate said first and second compression plates through a plurality of imaging orientations.

64. The ultrasound breast imaging assembly of claim 63, wherein said plurality of imaging orientations comprise a cranio-caudal (CC) orientation and a mediolateral oblique (MLO) orientation.

Application Serial No. 10/616,319
Appeal Brief
November 30, 2007

65. The ultrasound breast imaging assembly of claim 52, wherein said ultrasound breast imaging assembly is configured to allow a patient to be imaged in a standard mammography position.

Application Serial No. 10/616,319
Appeal Brief
November 30, 2007

EVIDENCE APPENDIX
(37 C.F.R. § 41.37(c)(1)(ix))

- (1) United States Patent No. 5,479,927 (“Shmulewitz”), entered into record by Applicants in July 9, 2003 Information Disclosure Statement.
- (2) United States Patent No. 5,984,870 (“Giger”), entered into record by Applicants in July 9, 2003 Information Disclosure Statement.
- (3) United States Application Publication No. 2003/0007598 (“Wang”), entered into record by Applicants in July 9, 2003 Information Disclosure Statement.
- (4) United States Patent No. 5,706,327 (“Adamkowski”), entered into record by Examiner in March 22, 2007 Office Action.
- (5) United States Patent No. 5,553,111 (“Moore”), entered into record by Examiner in March 22, 2007 Office Action.

Application Serial No. 10/616,319
Appeal Brief
November 30, 2007

RELATED PROCEEDINGS APPENDIX

(37 C.F.R. § 41.37(c)(1)(x))

Not applicable.